



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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SENT VIA EMAIL AS PDF

March 19, 2021

Sean-Ryan McCray
Remedial Project Manager
Department of the Navy
Base Realignment and Closure Program Management Office West
33000 Nixie Way, Building 50
San Diego, CA 92147

Subject: EPA Comments on the Draft Parcel B Removal Site Evaluation Work Plan
Hunters Point Naval Shipyard Superfund Site

Dear Mr. McCray:

Please see attached EPA comments on the "Draft Parcel B Removal Site Evaluation Work Plan" for the Hunters Point Naval Shipyard Superfund Site in San Francisco, California. The draft Work Plan is dated December 2020.

Please contact me at 415-972-3181 or praskins.wayne@epa.gov with any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Wayne Praskins", is positioned above the printed name.

Wayne Praskins
EPA Project Manager

cc: Nina Bacey, California Department of Toxic Substances Control
Terry Han, California Department of Public Health, EMB
Nathan King, San Francisco Regional Water Quality Control Board
Amy Brownell, San Francisco Department of Public Health

**EPA Comments on the Draft Parcel B Removal Site Evaluation Work Plan
Hunters Point Naval Shipyard Superfund Site
Draft Work Plan dated December 2020; EPA Comments March 19, 2021**

1. **Executive Summary:** Please make any needed revisions to this section to reflect changes made elsewhere in the Work Plan.
2. **Table 2-1, Conceptual Site Model, Page 2-3; Table 4-1, Building Radionuclides of Concern, Page 4-2; and Appendix A, Sampling and Analysis Plan, Table 10-1, Conceptual Site Model, Page 37:** The Radionuclides of Concern (ROCs) listed for Buildings 103 and 113 are Sr-90, Cs-137, and Pu-239. Ra-226 is not included, although the June 2010 Building 103 Final Status Survey Report identifies ²²⁶Ra as a ROC. In addition, we understand that the Navy's Radiological Affairs Support Office has stated that Ra-226 is an ROC at all radiologically impacted sites. Please add ²²⁶Ra as an ROC for Buildings 103 and 113 or explain why this is unnecessary.
3. **Section 3.1, Data Quality Objectives, Page 3-1:** Step 3 describes the planned analysis of surface soil and subsurface soil samples "for the applicable ROCs." The final July 2010 workplan for the basin-wide removal of storm drains and sanitary sewers includes a requirement that soil excavated from an Installation Restoration Program site be sampled for chemicals of concern before use as trench backfill. Please supplement the planned analyses to demonstrate that soil which may be used as backfill meets the backfill acceptance criteria presented in Worksheets #15.6 through #15.14 in Appendix A or explain why the additional analyses are not appropriate. This comment also applies to other subsections in Section 3 and Appendix A.
4. **Section 3.1, Data Quality Objectives, Page 3-1:** Step 4 includes references to Table 3-1 and Figure 3-1 which list or show the 24 Trench Units (TUs) proposed for excavation in Phase 1 of the planned sampling effort. We recommend, that as part of Phase 1, TUs 4, 26, 33, 36, 131 be replaced with 55, 19, 60, 42, and 53. Our rationale is as follows.

TU 55 – This TU was overexcavated three times. EPA/CDPH recommended resampling this TU due to "low variability of FSS_SYS for Ac-228 and Bi-214 and FSS_Bias for Bi-214 and Cs-137 and inconsistent gamma statics" as the highest gamma static measurement was less than half the maximum gamma scan measurement. In addition, this is one of only two TUs that were backfilled with excavated soil from a stockpile.

TU 19 – This TU was recommended by EPA/CDPH for resampling due to a difference in mass between the on-site and off-site laboratory samples – there was a difference of 102 grams suggesting that the sample was either modified or a different sample was sent to the off-site lab. In addition, the Ac-228, Bi-214, and K-40 FSS_SYS plots have slope breaks indicating multiple populations. It was backfilled with four overburden units and some imported fill.

TU 60 – This TU was overexcavated twice and recommended by EPA/CDPH for resampling due to "due to different weights for on- and off-site lab and counting of

samples at off-site lab over a year later, suggesting possible sample substitution; inconsistent results between off-site and on-site lab; and low variability in Bi-214 FSS_SYS data set.” There was a difference of 70 grams between the on-site and off-site sample mass, suggesting the sample was substituted or subject to tampering. It was backfilled with three overburden units and imported fill.

TU 42 – This TU was over-excavated four times and recommended by EPA/CDPH for resampling due to “samples being counted on 4 different days and not sequentially (suggesting a potential for sample substitution), FSS_Bias having lower variability than FSS_SYS for Ac-228, Bi-214, and K-40, and evidence of different populations between data sets on Q-Q plots.” It was backfilled with four overburden units and some imported fill.

TU 53 – This TU was over-excavated three times and recommended by EPA/CDPH for resampling due to “low variability of FSS_SYS and FSS_Bias for Bi-214, apparent different population for K-40 FSS_Bias, and inconsistent off-site lab results.” It was backfilled with two overburden units and imported fill.

5. **Section 3.6.2.2, Site Preparation, Page 3-21:** This section describes the removal of asphalt cover to expose target soils. A review of Figure 3-1 (Soil Investigation Approach) and Figure 3 (Drainage Pattern and BMP Map) of Appendix D (Stormwater Pollution Prevention Plan) indicates that clearing and grubbing will likely be required for TUs 5, 13, 14, 23, 25, 27, possibly the south end of TU 20, and for the Building 114 footprint. These TUs are located in or extend into areas that are covered with two feet of clean soil and vegetation, as discussed in the Remedial Action Work Plan for Parcel B (November 2012) and other documents.

Please revise the Work Plan to clarify whether clearing or grubbing and removal of the soil durable cover may be necessary at some TUs and confirm that the soil cover will be removed before the gamma survey will be conducted. If grubbing will be required, please provide information on where clearing and grubbing, and removal of the soil cover, may be necessary, the management and disposal of any wastes generated, and restoration of the durable cover.

6. **Section 3.1, Data Quality Objectives, Page 3-1:** Step 5 (Develop Decision Rules) discusses a point-by-point comparison with remediation goals (RGs) at agreed upon statistical confidence levels. We repeat our request, made on the draft workplan for Parcels D-2/UCs, that the Navy clarify the meaning of the phrase “agreed upon statistical confidence levels” or delete the phrase. The phrase suggests something other than a direct comparison of each sample result to the relevant RG. This phrase is also used in the Executive Summary, Section 4.1, Section 5.2, and Appendix A.
7. **Section 3.1, Data Quality Objectives, Page 3-2:** Step 6 (Specify the Performance Criteria) states, “If the concentrations of radionuclides in the uranium natural decay series are consistent with the assumption of secular equilibrium, then the ²²⁶Ra concentration is NORM, and site conditions comply with the Parcel B ROD RAO.” Please explain how results for radionuclides not in the U-238 decay series will be used (e.g., Th-232, Th-228, U-

235). This comment also applies to Worksheet #11 in Appendix A.

8. **Section 3.1, Figure 3-2:** The bottom triangle in Figure 3-2 says “Is any ^{226}Ra Concentration $> 238\text{U} + \text{RG}$?” Please explain the basis for this comparison. Is this part of an evaluation of secular equilibrium? If, so, why single out the comparison of Ra^{226} and U^{238} , leaving out other radionuclides in the decay series? And why use the RG as a threshold difference between the two concentrations?
9. **Section 3.3.1, Investigation Levels, Pages 3-4 and 3-5:** The text states that gamma static counts and spectral analysis results will be compared to background, and biased samples will be collected if locations with elevated activity are identified. It also describes plans to calculate gamma scan ILs based on background following mobilization. Please clarify what background areas or datasets are proposed, including whether the Navy intends to use the same dataset used for Parcel G (i.e., the area near Building 809).
10. **Section 3.4, Radiological Investigation Design, Pages 3-5 to 3-12:** The Work Plan requires re-excavation of soil in the Phase 2 TUs if contamination is identified in any of the Phase 1 TUs. The workplan should indicate the need to avoid undue mixing of excavated soils from the Phase 1 TUs to minimize dilution of any contamination. That includes practices such as sieving to dry wet soils.
11. **Section 3.4.1, Number of Samples, Page 3-7:** The text states that the data quality assessment (DQA) of SU data will include preparation of a retrospective power curve (based on the MARSSIM Appendix I guidance) to demonstrate that a sufficient number of samples was collected to meet the project objectives. The last sentence also states that if necessary, additional samples may be collected to comply with the project objectives. Please clarify when this analysis will be completed. Completing the analysis as soon as practical will minimize the risk of rework and project delay.
12. **Section 3.4.1, Minimum Number of Samples, Page 3-8:** The text states, “The minimum number of samples per SU [survey unit] will be developed based on the variability observed in the RBA data. A retrospective power curve will be prepared to demonstrate that the number of samples from each SU was sufficient to meet the project objectives. If necessary, additional samples may be collected to comply with the project objectives.” Please revise the Work Plan to include the formula or reference to a MARSSIM section that illustrates the formula to be used to calculate the retrospective power curve.
13. **Section 3.4.1, Number of Samples, Page 3-8:** The text states that a minimum of 18 systematic soil samples will be collected for each 152 cubic meters of soil in each TU or SU. As stated in SAP Worksheet #17 (Sampling and Survey Design and Rationale, page 87) of Appendix A, 25 samples should be collected initially. Please revise Section 3.4.1 to be consistent with SAP Worksheet #17 and discuss how a parcel-specific number of samples will be derived.
14. **Section 3.4.3, Radiological Background, Page 3-8:** The Work Plan states that “The RGs presented in Table 3-5 are incremental concentrations above background.” Except for the

RG for Ra-226, this statement is incorrect. Please correct.

- 15. Section 3.4.3, Radiological Background, Page 3-8:** The Work Plan describes the collection of RBA samples and additional RBA measurements. Please clarify whether the collection of additional background data is planned and provide details about the planned use of the background data collected in 2019. This comment also applies to Section 1 (Introduction), Section 3.1 (Data Quality Objectives), and Section 5.5 (Comparison to Background).
- 16. Section 3.4.4, Phase 1 Trench Unit Design, Page 3-9:** The text states that the thickness of soil placed on RSY pads will not exceed 6 inches to control the measurement geometry. Other parts of the Work Plan, including Section 3.6.3.2.2 and Worksheet #14 in Appendix A, state that the soil column thickness will not exceed 9 inches. Please reconcile these statements and confirm, if correct, that the maximum volume of each batch of excavated material will be 152 m³ regardless of the area or thickness of soil placed on a RSY Pad.
- 17. Section 3.4.5, Phase 2 Trench Unit Design, Page 3-11; Table 3-2, Phase 2 Soil Trench Units; and, Figure 3-4, Example Phase 2 – Trench/Survey Unit and Sample Locations:** It would be helpful if the text, table, and figure were more easily comparable (i.e., if they all used the same units of length (feet or meters), and the same nomenclature (e.g., sidewall samples or buffer samples).

In addition, we are unable to reconcile “Number of Systematic Samples from Sidewalls and Bottom” listed in Table 3-2 for TU 43 (84) and the number of borings shown on Figure 3-4. We count 57 sidewall or bottom samples associated with the borings shown in Figure 3-4: one bottom sample in each of 18 borings inside the TU and three samples associated with each of 13 borings in the “TU buffer.” (i.e., 54 TU samples and 39 buffer zone samples, but Table 3-2 specifies 36 Fill Unit samples and 84 other samples). Please explain this apparent discrepancy and make any needed corrections.

- 18. Section 3.5.1.1, RS-700 Gamma Scan Data Analysis, Page 3-14:** This section discusses how elevated radioactivity will be identified using the RS-700 system.
- a. The text states that local Z-scores are calculated using a moving average to identify elevated count rates where the background is variable, for SUs that meet this criterion, and semi-local Z-scores are calculated using the global average but with a moving average for the standard deviation to identify smaller areas of elevated count rates that may not be otherwise identified by the initial Z-score review, for SUs that meet this criterion. Please clarify how the moving average and global average are calculated, and the criteria to be used to determine whether a SU has a variable background.
 - b. The text states that any location with four or more regions of interest (ROIs) having a Z-Score, local Z-score, or semi-local Z-score greater than 3 ($Z > 3$) is marked for follow-up. Please explain the basis for only identifying locations with four or more ROIs having a Z-score greater than 3 for follow-up.

19. Section 3.6.2.1, Locating and Confirming Boundaries, Page 3-21: The text describes two sources of information which will be used to identify boundaries and depths of the former TUs and SUs (Tetra Tech EC [TtEC] reports and field observations).

- a. Please clarify whether the boundaries will account for remediation activities by TtEC which resulted in targeted excavation of soils with elevated radionuclide concentrations.
- b. Please clarify whether the boundaries will reflect slumping/sloughing of sidewalls which occurred in some TUs during the period the TtEC TU excavations were open.
- c. Please comment on the uncertainty associated with the methodology used to locate the previous excavation limits, particularly the horizontal limits, and the level of confidence that the uncertainty is less than 6 inches, the planned extent of overexcavation of Phase 1 TUs.
- d. We recommend that the Navy make and document field observations to assess whether the TU boundaries were accurately located (e.g., whether differences in soil texture or appearance were observed between soils on either side of the marked TU boundaries).

20. Section 3.6.2.2, Site Preparation, Page 3-22: The text states that “A minimum of two feet from the closest observed utility will be maintained to prevent accidental exposure to the utility, based on the utility hazard or importance.” Please clarify whether there may be exceptions to this requirement, as we understand was the case in some Parcel G TUs.

21. Section 3.6.3.2.3, General Process, Page 3-24: This section states that scanning will be performed by scanning straight lines at a rate not to exceed 0.25 meters per second (m/s) with a consistent detector distance from the soil surface (approximately four inches above the surface), and that each traverse of the RSY will be offset from the next detector path based on the instrument’s detector size. Please reference a procedure or provide an explanation for how the consistency of the speed of movement or distance of the detector from the surface will be maintained and how the detector paths will be identified to ensure no gaps in gamma scan coverage will occur during the scanning.

22. Section 3.6.3, General Process, Page 3-25: The text states that “A biased soil sample will be collected from the approximate location of the highest elevated gamma scan measurement.” In contrast, Section 3.3.1 states that “If the gamma spectroscopy detector system static measurements identify locations with elevated activity, biased samples will be collected.” Please clarify whether biased samples will be collected based on gamma scan or static measurements (or both).

23. Section 3.6, Radiological Investigation Implementation, Pages 3-19 to 3-34: Please add a statement that, upon request, soil will be provided to the regulatory agencies for split sample analysis, and in this section or Appendix A briefly describe the proposed procedure for generation of a split sample. Our understanding is that the Navy contractor carried out the following steps during the Parcel G retesting: i) placed soil to be sampled on a new,

disposable sheet of plastic using a disposable scoop; ii) used the scoop to homogenize the soil; iii) alternately fill the primary Navy sample container and the split sample bag provided by the EPA representative; iv) pressed air from the split sample bag and closed the zipper-lock to seal bag; v) used a disposable towel to wipe any dust from the outside of the bag; vi) collected a swipe sample from the outside of the bag and analyzed the swipe to check that the sample meets release limits (less than 20 DPM/cm² alpha, and less than 1,000 dpm/cm² beta); and vii) signed a COC form provided by the EPA representative to relinquish the sample.

- 24. Section 3.6.6.1, Phase 1 Trench Unit Samples, Pages 3-31 to 3-32:** The planned format for sample identification does not appear to distinguish between systematic and biased samples. Will biased samples be identified by adding a “B,” as has been done for Parcel G samples?
- 25. Section 3.6.7.1, Deconstruction of Radiological Screening Yard Pads, Page 3-33:** Please describe the meaning of “RSY pad buffer material.”
- 26. Section 3.7, Radiological Laboratory Analysis, Page 3-34:** The last bullet point of Section 3.7 states, “At Buildings 103, 140, and 142 where ²³⁹Pu [plutonium-239] is a ROC, at least 10 percent of randomly selected samples will be analyzed by alpha spectroscopy for ²³⁹Pu. Please provide a rationale for analyzing fewer than 100% of the samples from locations where ²³⁹Pu is an ROC or revise Section 3.7 to ensure all samples are analyzed for ²³⁹Pu. Also, please clarify why Building 140 is described in Section 3 rather than Section 4 (i.e., is there potentially contaminated soil associated with Building 140?).
- 27. Section 4, Building Investigation Design and Implementation:** Additional changes to this section may be needed to reflect the outcome of the ongoing evaluation of the protectiveness of the building remediation goals.
- 28. Section 4.1, Data Quality Objectives, Page 4-1:** Step 6 includes a comparison of each net alpha and net beta result to the corresponding RG. The proposed approach appears to be inconsistent with the 2006 Basewide Radiological Removal Action Memorandum and the January 2009 Amended ROD for Parcel B which do not indicate that the remediation goals are to be applied as an incremental concentration above background. This comment also applies to Section 5.4.
- 29. Section 4.4.3.5, Building 140, Page 4-8.** Based on Table 13-2 (Location-Specific Applicable or Relevant and Appropriate Requirements) of the Amended Parcel B Record of Decision, Hunter’s Point Shipyard, San Francisco, California, dated January 14, 2009 (Amended ROD), Building 140 is eligible for inclusion on the National Register of Historic Places. Please revise the Work Plan to discuss Building 140 and how its potential inclusion on the National Register of Historic Places may affect planned survey and/or remediation work.
- 30. Section 4.4.3.5, Building 140, Page 4-8:** We are unclear on the planned investigation activities at Building 140. The text describes three class 1 floor areas plus “Installed electrical cabinets, flooded pump pit, discharge piping, and the discharge channel.” Table 4-4 includes a footnote that “Data to be collected consistent with the *Technical Memorandum*

to Support Unrestricted Radiological Release of Building 140 Including the Suction Channel and Discharge Piping (TtEC, 2011),” but does not list or further describe the survey units. We are unable to locate any information on survey units in the referenced figure (Figure 4-7). Please describe how the 2011 Technical Memorandum guides or affects the planned investigation activities and provide additional detail on planned investigation activities at or associated with Building 140, including a figure that depicts the proposed survey units.

- 31. Section 4.5.8.1, Alpha-Beta Scan Rate, Page 4-14:** This section states movement of large area detectors, such as the Ludlum Model 43-37, will be surveyor-controlled, and the average scan rate will be monitored during scanning and verified during data evaluation; however, the text does not state how scan rates will be monitored or how often data evaluation will be performed to ensure the project-required scan rates are met such that the MDCs of such scans are met and the data are of sufficient quantity and quality to meet the project objectives. Please revise the Work Plan to provide details about scan rate monitoring and verification.
- 32. Section 4.6.3.2, Survey Unit and Reference Background Area Alpha-Beta Scanning, Page 4-24:** The text states that “The total surface area of remaining, accessible impacted surfaces to be scanned will be 100 percent in Class 1 SUs, 50 percent in Class 2 SUs, and up to 10 percent in Class 3 SUs.” Please explain how the percentage of Class 3 SUs to be scanned will be determined and/or specify a minimum percentage, along with a rationale for the specified value.
- 33. Section 5.5, Comparison to Background, Pages 5-9 to 5-10:** The text states that “Sample and static measurement data shown to be NORM or anthropogenic background comply with the Parcel B ROD RAO, even if the results exceed the corresponding RG values.” As we commented on the Parcel D-2/UC Work Plan, for soil sampling results, if the Navy believes that a sample exceeding its RG and BTV from the 2020 Final Background Study Report represents background, the Navy should submit an analysis supporting its conclusion for EPA and State review. The agencies will evaluate the information on a case by case basis. EPA is not, at this time, agreeing that any results exceeding an RG or previously agreed to BTV represent background. The burden of proof will be on the Navy to demonstrate that results above an RG or BTV are not site-related.
- 34. Section 7.5, Compliance with CERCLA Off-Site Rule, Page 7-12:** The text states, “With Navy approval, Gilbane will request proof of Off-Site Rule approval from the off-site disposal facility before transferring any wastes to that facility.” Gilbane or the Navy should also confirm with EPA’s Region 9 Off-site Rule Coordinator that the disposal facility has current offsite rule approval before shipment of any wastes.
- 35. Section 8.4.2, Stockpile Control, Page 8-2:** According to this section, “All stockpiles will be covered with plastic or tarps at the end of shift or when stockpile additions or removals are complete and will be monitored on a weekly basis.” Please revise Section 8.4.2 to ensure that monitoring occurs more frequently than weekly before, during, and after storms or high winds to ensure that the stockpile coverings are functioning as intended.

Also, please ensure that this section is consistent with Appendix E (Dust Management and Air Monitoring Plan) which states, “Water, a temporary cover, or chemical soil stabilizer will

be applied to control fugitive dust emissions from stockpiled material when not actively handled, at the end of each workday for active stockpiles, or as needed during high winds.” Water may not be effective during periods of high wind which may dry stockpile surfaces.

- 36. Section 8.5, Air Quality and Dust Control, Pages 8-2 to 8-4:** Please make any needed revisions to this section to reflect changes made to Appendix E (Dust Management and Air Monitoring Plan).
- 37. Section 8.6, Noise Prevention, Page 8-4:** The text states that Gilbane will endeavor to limit noise at the HPNS boundary to 70dBA. Please specify project working hours and whether project work may occur on Saturdays or Sundays. We note the proximity of residences to some of the planned work areas.
- 38. Appendix A, Sampling and Analysis Plan, SAP Worksheets #3, #5, #6 and #7:** Please substitute Wayne Praskins for Judy Huang as the USEPA point of contact.
- 39. Appendix A, Sampling and Analysis Plan, SAP, Worksheet #11, Page 41:** The text includes the statement that “If one Phase 2 TU does not meet the Amended Parcel B ROD RAO, then all Phase 2 TUs will be excavated.” This statement differs from (although is not inconsistent with) a statement in Section 3.1 that “If any one Phase 2 TU does not meet the Parcel B ROD RAO, the TU will be excavated.” Please comment.
- 40. Appendix A, Sampling and Analysis Plan, SAP, Worksheet #12, Page 46:** The table requires the collection of field duplicates for 10 percent of field samples collected. In response to an EPA comment on the draft retesting work plan for Parcels D-2, UC-1, UC-2, and UC-3, the Navy indicated that they did not plan to collect field duplicates at those parcels. Please confirm that field duplicates are planned for Parcel B.
- 41. Appendix A, Sampling and Analysis Plan, SAP Worksheet #14, Summary of Project Tasks, Section 14.2, Mobilization Activities, Page 50:** The Building Investigation subsection in Section 14.2 includes “Implementation of dust control methods and air monitoring, if warranted” as a possible activity. Please clarify when and how it will be determined if dust controls and air monitoring are needed.
- 42. Appendix A, Sampling and Analysis Plan, Figure 16-1:** The schedule appears to assume that the Phase II TUs do not require excavation. We recommend that the figure indicate and/or reflect the possibility that the Phase II TUs require excavation.
- 43. Appendix B, Contractor Quality Control Plan, Section 10.3, Final Inspection, Page 30:** Section 10.3 indicates that the Quality Control Manager (QCM) and the Resident Officer in Charge of Construction (ROICC) will be present during the final inspection. Please ensure that the USEPA, California DTSC, and Regional Water Quality Control Board project coordinators are invited to attend the final inspection with the QCM and the ROICC.
- 44. Appendix E, Section 1.0 Introduction, 3rd Paragraph:** The discussion in the Parcel B, Appendix E, Dust Management and Air Monitoring Plan (DMP) regarding nearby receptors and monitoring scale currently states:

“The nearest residential receptors are located at the San Francisco Shipyard at 11 Innes Court, approximately 100 meters southwest of the Parcel B boundary. In addition, approximately 75 meters south of Parcel B, public receptors are present at a commercial kitchen and artist studios in the 100 block of Horne Avenue. The air quality monitoring is appropriate to assess potential impacts to the nearby residents and public receptors, in addition to on-site workers. The air monitoring stations will assess potential middle scale impacts to residents and public receptors within 500 meters of the site.”

However, for the purpose of air monitoring representativeness, microscale is typically used for distances of 100 meters or less, and medium scale is used for distances of 100-500 meters. Spatial scale is an important consideration in designing air monitoring programs to ensure that the impacts of air emissions to the public are assessed properly

Also, in addition to the nearby SF Shipyard, commercial kitchen, and artist studios, there appear to be several buildings on Parcel B that are in use, including 115/116 and 125. Those potential receptors should be included in this discussion and considered in the sampling design.

Please update the Work Plan to describe the monitoring scale and potential receptors more accurately.

- 45. Appendix E, Section 1.0 Introduction:** The DMP does not include language regarding project signage and who to contact for questions or concerns regarding air quality. Please add language that states that: (1) a project sign will be installed near the site entrance or other appropriate location where it can be seen by the public, and (2) the sign will include project contact information for both the Navy and Gilbane personnel for reporting of dust or other air quality concerns.
- 46. Appendix E, Section 2.2.9 (Recycling) of (Dust Management and Air Monitoring Plan):** This section indicates that non-impacted asphalt and concrete will be recycled on site; however, details related to the stockpiling, active grinding, sorting, material handling, and loading associated with the asphalt recycling are not provided and/or referenced. Significant dust control was required during previous asphalt grinding operations at Hunters Point. Please revise the Work Plan to include details associated with the asphalt recycling.
- 47. Appendix E, Section 2.2.10 Wind Speed and Air Monitoring and Response:** The Work Plan does not have specifications for the data quality and siting for the meteorological station. Also, the location of any potential windsocks on Parcel B are not shown on Figure 1. This section does indicate that the meteorological station will be at the site trailer in Parcel C, but the exact location is not provided on Figure 1. Note that wind speed and direction in the site trailer area may be influenced by topography and may not entirely correspond to Parcel B. Please add this information to the DMP and update Figure 1 accordingly.
- 48. Appendix E, Section 3.0 Air Quality Monitoring Procedures, last paragraph:** The DMP states: “The upwind and downwind dust monitors will enable emissions from off site to be considered in the 50 µg/m³ average per 24-hour day action level comparison, when wind

speeds are greater than 5 mph and wind direction is constant over the sampling period. There will be situations, like stagnant conditions or when the wind direction varies during the data collection interval, where consideration of upwind is not appropriate.” Please include decision criteria for site related concentration calculations similar to what is being used at Parcel G, in a table or attachment to the DMP.

49. Appendix E, Section 3.1 Air Quality Sampling and Real-Time Dust-Monitoring

Locations: This DMP section lacks information about how air quality sampling and real-time dust monitoring locations were selected.

In addition, the DMP should specify how many locations will be in use at the same time, decision criteria to switch between locations, and upwind and downwind pairing.

The Navy should also include monitor siting best practices in the DMP, both in siting air monitoring stations and in siting individual monitors and samplers within each station. Distances from buildings and emissions sources not associated with Parcel B, like truck traffic or street sweeping for other activities taking place at the site, is recommended. Siting within individual stations to prevent interference from samplers or power sources is required. These best practices include:

- Sites should be selected for long-term use when possible for data comparability purposes.
- Sites should be selected away from buildings, topography, and other obstructions to the extent possible.
- When samplers are sited together, a two-meter distance between radiation, asbestos, and high-volume samplers is required. Inlets for the radiation and asbestos samplers should be upwind from the high-volume samplers. The high-volume samplers pull a significant volume of air through filters and can potentially bias other samplers too close to their exhaust.
- A 10 to 15-meter distance between diesel generators (if used for power source) from all samplers and real-time monitoring stations is required to prevent interference. Appropriate gauge extension cords for critical equipment must be utilized to maintain adequate voltage.
- A 15-meter distance from excavation or other dust sources is recommended for all samplers and real-time monitoring stations. All excavation near monitoring locations must be documented and reported with the corresponding analytical data. Proximity to high truck traffic routes and/or idling trucks should also be considered.

Please update this section of the DMP accordingly. See EPA Comment #55 on Figure 1 for more concerns about siting.

50. Appendix E, Section 3.2.1 Total Suspended Particulates, Manganese, and Lead and

Section 3.2.2 PM 10: These sections of the DMP do not include information about how flow

rate calculations will be performed. It is recommended that mass flow controlled high volume PM10 and TSP/metals samplers be used. If mass flow controlled samplers are not used, flow should be calculated using the pre and post pressure drop across the filter to compensate for the effects of filter loading. Please reference commonly accepted SOPs for calculating flow rate. The types of samplers used, and flow rate calculations must be specified in the DMP and associated SOPs.

- 51. Appendix E, Section 3.2.4.2 Dust Monitoring for Off-Site Receptors, Paragraph 1.** This section includes the following statement: “Figure 1 shows the dust-monitoring locations specified by California Department of Toxic Substances Control (DTSC) (May 2019).” EPA believes that DTSC did not specify dust monitoring locations in Parcel B and this has been included in error. Please remove this sentence.
- 52. Appendix E, Section 3.2.4.2 Dust Monitoring for Off-Site Receptors:** This section states that SidePakTM aerosol monitors will be used for real-time dust monitoring. EPA believes that these monitors are acceptable for the intended purpose. However, the Navy should note that this data may not be comparable to DustTrak II data collected elsewhere at the site. Mass measurement readings may differ under the same conditions. Also note that both the SidePakTM and DustTrak II samples are not accurate when PM_{2.5} concentrations are extremely high, including during wildfire smoke events.
- 53. Appendix E, Section 3.2.6 Field Quality Control Procedures.** This section lists key elements of the routine field QC program. Please add monthly or weekly flow rate verification using an external National Institute for Standards and Technology (NIST)-traceable flow meter, and add this this verification to the existing row “Dust (measured as PM10)” of Table 4 pg. 1, so that the Laboratory/Field Control Sample (Accuracy) reads: “Weekly flow rate check with external NIST traceable flow calibrator; 3 L/min tolerance \pm 5%.” EPA Comment #58 also addresses this omission.
- 54. Appendix E, Section 4.0 Data Review and Reporting states:** “The Navy will report dust-control activities, wind data, and PDR results to EPA and DTSC on a weekly basis. Air-sampling reports will be prepared as analytical results are received from the laboratory and electronically submitted biweekly (depending on the receipt of analytical data) to the Navy.” Please provide example reports as an attachment to the Work Plan so that EPA can evaluate whether it contains all necessary components.
- 55. Appendix E, Figure 1:** Figure 1 shows five potential upwind and five potential downwind monitoring locations. However, the predominant wind direction on the map appears to show that several of the monitoring locations marked as upwind are potentially downwind, and some of the downwind locations are not properly sited to capture downwind emissions from activities at Parcel B or impacts from site activities on onsite and offsite workers and residents. It is also not clear how many upwind and downwind monitors will be in use at the same time and how upwind and downwind monitoring locations will be paired.

Figure 1 does not show where real-time dust monitors will be located. Figure 1 also does not include the proposed location(s) for the RSY pads or trench units. Please clarify where real-

time dust monitors will be located and add potential RSY pad and trench unit locations to Figure 1.

EPA proposes a meeting and possible site walk to discuss this issue in more detail and to come up with monitoring locations that represent the best possible upwind and downwind monitoring locations for work activities at Parcel B. See EPA Comment #49 for additional concerns on monitor siting.

56. Appendix E, Figure 2: Figure 2 shows a wind rose from San Francisco International Airport, but it is titled “Wind Rose Parcel E.” Please update the figure name and clarify that this wind rose is included to show that the predominant wind direction is from the W or NW, in the narrative of the DMP.

57. Appendix E, Table 3 Air-Sampling and Dust-Monitoring Frequency and Sample Collection Methods: Please update the sampling method for the real-time dust monitoring from DustTrak II to SidePak™, consistent with the rest of the DMP.

58. Appendix E, Table 5 Air-Sampling Unit Flow Checks and Controls: Consistent with EPA Comment #53 please update this table to add flow rate verification using an external National Institute for Standards and Technology-traceable flow meter at regular intervals, or whenever units are moved as shown below.

Units/Flow Rate	Flow Rate	Drift	Unit taken out of service
High-volume Air Sampler (TSP and PM10) (39 to 60 cubic feet per minute)	Set/check integrated flow meter at start of day and end of day Verified flow monthly, or anytime the unit is moved, using external NIST-traceable flow controller Flow rates recorded on sample collection log	Verified quarterly or any time the unit is moved, or for each unit using manufacture calibration kits Flow rate verified with external NIST-traceable flow controller monthly (or more frequently if deemed necessary) Calibration recorded in the Calibration Logbook	When drift cannot be corrected, or calibration fails or expires PM10 sampler taken out of service quarterly for cleaning the PM10 size selective sampling device
Asbestos Low-volume Air Sampler 25-millimeter cassette: 2 to 4 liters per minute (400-liter minimum) 37-millimeter cassette: 2 to 10 liters per minute (3,000-liter minimum)	Set/checked at start and end of each day Verified monthly, or anytime the unit is moved, using NIST traceable flow controller Flow rates recorded on sample collection log	Verified quarterly or any time the unit memory is full, using manufacture calibration kits Calibration recorded in the Calibration Logbook	When it fails calibration

ROCs Low-volume Samplers(60 liters per minute)	Set/checked at start of day with NIST traceable calibrated rotameter Flow rates recorded in the ROC Air Sample Logbook and on the samplecollection envelope	Verified daily upon setup (with rotameter) Calibration performed yearly, or after repair; recorded in the ROC Air SampleLogbook	When unable to achieve 60 liters per minute, requires repair, or manufacture calibration is due (yearly)
DustTrak™ II PM10 Real-time DustMonitor	Daily flow rates are internally continuously monitored	Verified weekly \pm 5 percent setpoint/SidePak™ Operation and Service Manual Recalibrate as needed	Check power supply When zero control cannot be maintained or per manufacturers guidelines

59. Appendix E, Attachment 2 Gilbane Standard Operating Procedures and Field Forms: Gilbane Standard Operating Procedures and Field Forms are missing from the DMP. Please transmit them to EPA for review. EPA may have additional comments on the Standard Operating Procedures and Field Forms.

60. EDITORIAL COMMENTS/TYPOS

Section 3.1, Section 4.1, and SAP Worksheet #11 (Appendix A): These sections include “if...then” decision rules in Step 6 of the DQO process. EPA guidance (EPA/240/B-06/001, February 2006) recommends that these statements be included in Step 5. The guidance describes Step 6 as including “the performance or acceptance criteria that the collected data will need to achieve in order to minimize the possibility of either making erroneous conclusions or failing to keep uncertainty in estimates to within acceptable levels.”

Section 3.6.4.1, page 3-28: typo in “The depth, recovery position, and gamma scan measurement information will correlated to each sample extracted from the core.”

Section 4.4.1.2. In the first full par on page 4-6, should “soil” be “building surface”?

Section 4.4.3.1, Building 103, Page 4-7. There appear to be discrepancies in how the survey units are described in the text and in Table 4-4 and shown in Figures 4-2 and 4-3.

- The text states that suvey units SU-013 and SU-015 were combined into a single SU (SU-113), but Figure 4-2 still shows SU-013 and SU-015
- The table lists a SU (SU-032) not shown on Figure 4-3.
- The text states that a new SU (SU-033) was added, but we could not locate this SU in the figures.

Figure 4-5. Table 4-4 refers to SU-16 which we could not locate in the figure.

Table 4-4. There appears to be a typo in the title as this table covers more than Building 140.

Figure 4-5. Should the figure title read “Building 113A”?

Equation 4-2: Should $RG(\alpha + \beta)$ be $RG(\alpha \text{ or } \beta)$?

Section 4.5.8.5: There is a typo in “tru” (“d = 3.28 (for 95% tru positive and 5% false positive)”))

Appendix A, Worksheet #12. Footnote 4 appears to be missing from the table.

Appendix A, Worksheet #14, Section 14.3: The worksheet refers to 17 SUs associated with soil at building sites. Worksheet #17 refers to 15 SUs.

Appendix A, Worksheet #14, Section 14.3, Page 51: The worksheet includes a reference to the soil sorting process.

Appendix A, Worksheet #14, Page 54: Should the first bullet refer to alpha-beta scans rather than static measurements?

Appendix A, Worksheet #15.9, Page 73: The entry for chlordane (analyte column) is truncated in the PDF.